POWER DISTRIBUTION SYSTEM

Abstract

One aspect of the present invention provides a power distribution system comprising a first printed circuit board, a power supply, a processor, and a flexible cable connector. Both the power supply and the processor are mounted on the first printed circuit board. The flexible cable connector comprises a first end electrically connected to the processor and a second end electrically connected to the power supply. The flexible cable connector is configured with a length so that the power supply is in a spaced relationship relative to the processor. The flexible connector also extends between the power supply and the processor independent of the first printed circuit board. The flexible cable connector comprises a plurality of insulated power wires and a ground structure. The plurality of insulated power wires are arranged generally parallel to each other extending from the first end to the second end of the flexible cable connector. The ground structure includes a ground shield that surrounds the plurality of insulated power wires and extends from the first end to the second end of the flexible cable connector, with the ground structure configured to provide a return path for current between the processor and the power supply.